DOCUMENT RESUME

ED 055 751 RE 003 864

AUTHOR Linder, Ronald; Fillmer, Harry T.
TITLE Research Generalizations on Reception Skills.
PUB DATE 71
NOTE 9p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Auditory Discrimination; Cultural Differences; *Language Development; Language Research; *Learning Modalities; Media Selection; *Reading Development; Reading Research; *Receptive Language; *Sensory Experience; Sensory Integration; Verbal Development; Visual Discrimination

ABSTRACT

Because learning to read is based on the ability to sift and organize sensory input, it is important for teachers and curriculum planners to know of the sorts of language experiences which develop reception and, subsequently, reading skills. Research on the effects of visual and auditory presentation of information and on early sensory experience indicates that (1) children of different cultural and social backgrounds show different preferences for auditory and visual presentation, (2) preference for visual and auditory presentation changes with maturational level, (3) the appropriate modality of presentation is determined by the type, complexity, and extensiveness of the information to be conveyed, (4) types of sensory modalities exist in a hierarchy moving from concrete meaning to abstract meaning, (5) feedback stimulates learning, (6) auditory deficits are more common than visual deficits, and (7) children of low socioeconomic levels have deficits in all language development. Suggestions for applying this research to classroom techniques and approaches are made. References are included. (AL)

ED055751

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

Ronald Linder
Assistant Professor of Education
University of South Florida
Tampa, Florida

Henry T. Fillmer
Associate Professor of Education
University of Florida
Gainesville, Florida

RESEARCH GENERALIZATIONS ON RECEPTION SKILLS

Channels of Communication and Learning.

Members of contemporary western culture are bombarded continually with auditory, visual and other supplementary sensory stimuli. No one today can possibly attend to all the information stimulating his receptive channels of communication. Therefore, sifting, compressing, tuning out and tuning in are cognitive realities. "Man seems to subconsciously refuse to accept excessive information or he selects that information which has surprise value, predictive value, or is needed for survival." (1)

Curriculum builders and teachers must learn to structure pupil language activities for the most efficient learning by choosing wisely from the myriad of stimuli available. The right sifting, the right compression and the right techniques for presenting carefully selected language experiences is one of the most important functions of the conscientious language arts teacher.

RE003 864

Unfortunately, little help is available in the literature for teachers seeking information regarding the comparative effectiveness of the visual and auditory channels of communication as they relate to the acquisition of language skills.

Most studies pertaining to the efficiency of learning and recall based on various methods of sensory presentations have been conducted with college students and adults rather than elementary pupils.

Among the investigations that have been conducted there is no general agreement regarding the relative effectiveness of the various modes of presentation in stimulating learning. Some investigators conclude that visual stimuli are superior. Others confirm the superiority of the auditory presentation. Still others assert that a simultaneous audio-visual approach provides the best learning.

Generalizations from the Research.

In reviewing investigations comparing the effectiveness of various types of sensory stimulation on learning an effort was made to identify points of agreement among them that would be of use to language arts teachers.

The seemingly contradictory results and multifarious approaches to the problem of channel effectiveness make the listing of generalizations at best a nebulous task which may involve some accumulated guesswork caused by a search for useful answers and an attempt to bring order out of disorder. With these limitations in mind the

following generalizations and subgeneralizations are presented for the purpose of bringing into focus techniques of sensory stimulation that have an effect on learning.

1. Modality preference seems to be developmental in nature. Individual children or adults show preference for either auditory or visual presentation in learning activities. Certain groups or cultures may show a unique preference for one channel over another. This tendency implies that cultural influences may direct our activities and develop proficiencies in certain manners of learning.

Once again research points out to the teacher that not all pupils may be expected to learn from one single type of presentation. Teachers should make an effort to provide learning experiences that permit pupils to choose from various types of sensory stimulation. Thus the learning may be based upon pupil strengths rather than pupil weaknesses.

2. Modality preference seems to be affected by maturation. In working with printed or written material, young elementary children are usually auditory learners. At approximately grade six they tend to change from auditory to visual learners as their reading skills improve to the point where they can read more proficiently than they hear. In dealing with the printed word, illiterate adults are usually auditory learners undoubtedly because of their reading disabilities. For most adults complex information is learned more efficiently through a visual presentation because printed material is more accessible for review.

Easy material may be learned more efficiently through an auditory presentation because there is usually little need for review.

According to the findings, teachers of the lower grades should provide many oral-aural experiences through which their pupils could acquire information. At the same time reading skills should be practiced so that pupils may make the transition from auditory to visual learners rapidly and efficiently. Effective visual presentations should be planned for information that is complicated, but easy concepts might be learned most efficiently through an auditory presentation.

3. Modality efficiency varies with information presented. According to the cue summation theory, the audio-visual treatment is superior to the audio or visual alone so long as the information is similar or the same between the presentations, or so long as one presentation provides cues for the others.

A. Multiple presentations may produce inferior learning when unrelated information is presented by each treatment, because the pupil's attention is not maintained in such a situation. There is some evidence that a minimum amount of interference may actually cause deeper concentration and attention to the task at hand, but too much detail or outside noise will cause a disintegration in learning.

B. Pictures may at times distract rather than illustrate when they are cluttered with too much detail. Outlines and cartoons tend to exaggerate the important details and may frequently provide better cues for learning than photographs or detailed drawings.

Colored pictures seem to be superior to black and white.

C. The audio-visual treatment is superior up to the information capacity limits of the pupil. Beyond that point, information is lost from either or both the audio or visual treatments because either the treatments compete for dominance or the pupil blocks one treatment in favor of the other. The pupil's capacity for performance must be considered in planning lessons or experiences for him. In presenting extensive or complicated information either an audio or visual approach may be more effective than a combined approach.

D. The teacher can help pupils to understand a complex concept by compressing the information or by simplifying the input of information. Flooding the learner with too much information and stress on realism is likely to provide a poor learning situation. Contrary to widespread opinion, it seems possible to provide an environment that is too rich for optimal learning at any one time.

Several implications for teachers are included in research on the cue summation theory. Too much detail reduces learning efficiency, whether it is caused by an overabundance of presentations, too much clutter in pictures and photographs or a learning environment that is so rich with information that it is confusing to the pupil. Teacher planning can avoid inefficiency of instruction caused by too many or competing cues to learning.

4. Types of sensory modalities may exist in a heirarchy. This heirarchy includes visual, auditory, tactile, kinesthetic, offactory, gustatory, proprioceptive and visceral modalities. The visual presentation may be easier than the other higher senses. There is some evidence that it is less demanding, yet provides a better base for transfer than the auditory treatment.

It has been suggested that within each sense there is a heirarchy of meaningfulness which demands increasingly greater proficiency. This heirarchy moves from concrete to representational to abstraction of the information. An example of the progression of such a heirarchy would be to present the child first with a ball to examine (concrete). On the next level a picture of a ball would be presented (representational). Finally, the word ball would be used (abstract). The difficulty of cognition varies among modalities, however. An abstract visual portrayal or a diagram in the representational stage may not be so difficult to learn as an abstract auditory expianation of the same complex system. Senses, however, act in cooperation much more frequently than they act independently.

Since all senses in the heirarchy are used regularly in day to day communication, teachers should make it possible for pupils to use all the communication modalities in the school situation that they use out of school. Pupils should have the opportunity to experiment with films with and without sound tracts, respond to taste, feelings and smell as well as sound and appearance.

They should strengthen senses that are underdeveloped as well as use to advantage those that are most efficient. Such activities do not take place in the classroom unless the teacher sets the stage and encourages the pupils to perform.

5. Practice with feedback stimulates learning. Practice, using both oral and kinesthetic responses, especially with corrective feedback, provides optimal learning efficiency regardless of the modality channel used. Practice alone does not necessarily lead to improvement. Therefore teachers should plan for corrective feedback as an integral part of all school learning experiences.

6. Auditory deficits are more common than visual deficits. The majority of children who are poor auditory descriminators are experiencing reading difficulties. Auditory discrimination may be used as a prognostic indicator of success in reading during the early school years. Auditory ability may be more reliable than a reading readiness test as a predictor of future reading ability since many current reading readiness tests measure visual acuity and discrimination rather than auditory abilities.

It is important for teachers, especially in the lower grades, to provide extensive opportunities for children to respond orally and aurally to various types of stimuli. Those children unable to discriminate auditorily should be referred for professional diagnosis and correction before they become severely disabled as learners.

7. Low socioeconomic level children have a deficit in all forms of language development. This deficit leads to reading disability. Teachers must remember that a general language problem is involved and not treat the problem as a specific reading disability. Language disabled pupils need wide experiences with all types of language. They should listen to stories and poetry read aloud, make up and tell their own stories, develop concepts and words used to express the concepts, and visual and auditory discrimination. As their general language proficiency increases, their reading ability will increase proportionately with appropriate instruction. Reading skills cannot be developed independently of general language proficiency.

SELECTED BIBLIOGRAPHY

Budoff, M. and Quinlan, D. "Reading Progress As Related to Efficiency of Visual and Aural Learning in the Primary Grades," Journal of Educational Psychology, 55 (45): 247-252, 1964.

Durrell, Donald D. and Murphy, Helen A. "The Auditory Discrimination Factor in Reading Readiness and Reading Disability," Education, 73:556-560, May 1963.

Dwyer, F. M. "Effect of Visual Stimuli on Varied Learning Objectives," Perceptual and Motor Skills, 27:1067-1070, December, 1968.

Hartman, Frank R. "Single and Multiple Channel Communication: A Review of Research and Proposed Model," AV Communication Review, 9:235-262, 1961.

Hsia, Hower J. "On Channel Effectiveness," Audio-Visual Communication Review, 16 (3): 245-267, Fall, 1968.

Katz, Phyllis A. and Deutsch, Martin. "The Relationship of Auditory and Visual Functioning to Reading Achievement in Disadvantaged Children," The Disadvantaged Child, Selected Papers of Martin Deutsch and Associates, New York: Basic Books, Inc., pp. 233-258.

King, Ethel, and Muehl, S. "Different Sensory Cues as Aids in Beginning Reading," The Reading Teacher, 19:163-168, 1965.

Robinson, Helen M., Weintraub, Samuel and Smith, Helen K. "Summary of Investigations Related to Reading, July 1, 1966 to June 30, 1967," Reading Research Quarterly, III(2): 178-181, Winter, 1968.

Travers, Robert M. W. "The Transmission of Information to Human Receivers," AV Communication Review, 12:373-385, Winter, 1964.

Solomon, Gerard O., "The Classification and Measurement of Image Provoking Cognitive Behavior of Science Teachers," ED.D. Dissertation, University of Florida, 1968.